



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/578,116	05/01/2006	Yuri Borisovich Sokolov	0155.0002US1	5044
29127	7590	01/14/2009	EXAMINER	
HOUSTON ELISEEVA 4 MILITIA DRIVE, SUITE 4 LEXINGTON, MA 02421				PHU, PHUONG M
ART UNIT		PAPER NUMBER		
2611				
			MAIL DATE	
			DELIVERY MODE	
			01/14/2009	
			PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/578,116	SOKOLOV ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Phuong Phu	2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 01 May 2006.

2a) This action is **FINAL**.                            2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 01 May 2006 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO/SB/08)

Paper No(s)/Mail Date 5/1/06.

4) Interview Summary (PTO-413)

Paper No(s)/Mail Date. \_\_\_\_\_ .

5) Notice of Informal Patent Application

6) Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. Regarding IDS filed on 5/1/06, the applicant is herein notified that references listed under section FOREIGN PATENT DOCUMENTS are not considered by the examiner because the applicant did not provide their copies, and their corresponding English translations (if applicable).

### ***Claim Rejections - 35 USC § 101***

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claim 1 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 1 is rejected under 35 U.S.C. 101 as not failing within one of the four statutory categories of invention. While the claim recites a series of steps or acts to be performed, a statutory "process" under 35 U.S.C. 101, must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing (Reference the May 15, 2008 memorandum issued by Deputy Commissioner for Patent Examining Policy, John J. Love, titled "Clarification of 'Process' under 35 U.S.C. 101"). The instant claim neither transforms underlying subject matter ***nor positively ties to another statutory category that accomplishes the claimed method steps***, and therefore do not qualify as a statutory process

The specific link to the Processes memo is  
[http://www.uspto.gov/web/offices/pac/dapp/opla/preognitice/section\\_101\\_05\\_15\\_2008.pdf](http://www.uspto.gov/web/offices/pac/dapp/opla/preognitice/section_101_05_15_2008.pdf)

Claim 1 claims a method of geometric harmonic modulation of a signal. The method is of sufficient breadth that it would reasonably interpreted as one completely performed mentally, verbally or without a machine because the claim fails to positively tie the method to another statutory category, e.g., an electronic apparatus, a electronic device, etc., that accomplished the method.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 1 is rejected as failing to define the invention in the manner required by 35 U.S.C. 112, second paragraph.

Claim 1 is narrative in form and do not contain positively recited steps of a specific process. Note that method claims should set forth a series of steps in the active tense in an instruction-like manner thereby reciting an actual method. Dependent claims should further limit base claims by reciting steps in a likewise fashion. *Ex parte Erlich* 3USPQ2d 1011 at 1017[6].

***Claim Rejections - 35 USC § 102/103***

6. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by White (6,023,488); or is rejected under 35 U.S.C. 103(a) as being unpatentable over White.

-Regarding claim 1, White discloses a method of geometric harmonic modulation of a signal “band-limited noise like signal” comprising a plurality of harmonics “spectral lines” evenly spaced in frequencies, wherein a unique random or pseudo-random set of initial phase differences “set of random (or pseudo-random) number of phases” for the nearest pairs of said harmonics is used encode each character of transmitted data (“m(t)”) for transmission (see figures 4(a), 4(b), 5(a), 5(b) and 5(c), and col. 4, line 30 to col. 5, line 2). White further teaches that said sets of initial phase differences are selected in the method in such a way as to obtain a noise-like spreading spectrum signal having a constant spectrum over a desired band and unchanged over band-limited channels (see col. 2, lines 50-59), and therefore inherently to minimize the signal’s crest factor caused by its transmission over those band-limited channels, (the signal considered here equivalent with the limitation “total signal”).

If the signal’s crest factor caused by its transmission over those band-limited channels is not inherently minimized, the claim is deemed still unpatentable over White. White teaches the

said sets of initial phase differences are configurable to be pre-generated and pre-stored in a memory for selection (see col. 4, line 54 to col. 5, line 2). Since it well-recognized in the art that during transmission, the transmission signal is subjected to be added by noise and interference, which might cause a crest factor to the signal, it would have been obvious for one skilled in the art to implement White in such a way that said sets of initial phase differences are selected among a plurality of candidate sets of initial phase differences in such a way as to optimally minimize the crest factor of the signal.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong Phu whose telephone number is 571-272-3009. The examiner can normally be reached on M-F (8:00 AM - 4:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Phuong Phu  
Primary Examiner  
Art Unit 2611

/Phuong Phu/  
Primary Examiner, Art Unit 2611